

# EASY Cal

## Calcium Nitrate Fertiliser Solution

EASY Cal can be used as a non-acidifying nitrogen fertiliser through drip and trickle irrigation systems and under-tree sprinklers.

It may also be used as a calcium fertiliser through foliar sprays and in fertigation programs.

### **ANALYSIS (weight/volume)**

12.6 % Nitrogen (N) w/v as nitrate	(126 g/L N)
18.1 % Calcium (Ca) w/v as nitrate	(181 g/L Ca)

### **SPECIFIC GRAVITY**

EASY Cal has a specific gravity of 1.5.

This gives EASY Cal an analysis on a weight/weight basis of:

8.4 % Nitrogen (N) w/w	(84 g/kg N)
12 % Calcium (Ca) w/w	(120 g/kg Ca)

### **HEAVY METAL IMPURITIES**

Cadmium (Cd)	1 mg/kg Cd (max)
Lead (Pb)	1 mg/kg Pb (max)
Mercury (Hg)	0.2 mg/kg Hg (max)

### **“SALTING OUT” AT LOW TEMPERATURE**

Most liquids have a ‘salt out’ temperature. This is the temperature at which crystal precipitation and growth occurs because the solution is over-saturated and the water can no longer keep the salts in a dissolved state. With EASY Cal this ‘salt out’ temperature is at or below 5°C. If other soluble salts or solutions containing salts are added to EASY Cal, the ‘salt out’ temperature will change.

### **DIRECTIONS FOR USE**

EASY Cal is a liquid calcium nitrate fertiliser for application through fertigation (irrigation systems) and as a foliar spray. EASY Cal may also be applied directly to the soil without further dilution in water if necessary.

EASY Cal may be used:

- to help prevent calcium deficiency in rapidly growing new plant tissue and fruit, e.g. “blossom-end rot” in tomatoes, “bitter-pit” in apples;
- as a non-acidifying nitrogen fertiliser in fertigation programs, where soil acidification around emitters is of concern. Other nitrogen fertilisers, such as urea and ammonium nitrate, may cause the soil pH to gradually fall in the zone in which the fertiliser is applied.

EASY Cal is a clear to amber coloured liquid, with a slightly acidic to neutral pH (5 - 7).

## Notes

Calcium has two important roles in soils and plant nutrition.

Firstly, calcium compounds, e.g. gypsum and lime, may be applied at high rates, e.g. 2.5 t/ha or more, for soil amelioration (to improve the structure of sodic soils and/or to raise the pH of acid soils).

Secondly, calcium is an essential plant nutrient. When used as a fertiliser, lower rates of calcium are required than as a soil ameliorant.

EASY Cal is used as a calcium fertiliser (soil and/or foliar applications) in high value horticultural crops, but is too costly to use at high rates if soil amelioration is necessary. In addition, if EASY Cal were to be used for soil amelioration, nitrogen would be applied in excess of crop requirements. Lime and/or gypsum therefore need to be applied if soil amelioration is necessary.

Calcium deficiency is very difficult to correct if soil moisture is inadequate. Ensure horticultural crops are properly irrigated at all stages of growth.

Avoid excessive applications of nitrogen or potassium fertiliser, as these may induce calcium deficiency.

## Fertigation

If EASY Cal is used as a **non-acidifying nitrogen fertiliser**, application rates will be dictated by the required rate of nitrogen. Note that EASY Cal will not correct existing soil acidity related disorders. Lime is necessary on such soils.

If EASY Cal is used as a **calcium fertiliser** application rates will be dictated by the required rate of calcium. Adjust the rate at which other nitrogen fertilisers are applied so as to apply the correct rate of nitrogen.

EASY Cal can be injected directly into the irrigation lines without further dilution in water in the mixing tank.

## **Foliar sprays**

Foliar sprays of EASY Cal can be used to supplement soil-applied calcium.

Calcium is immobile in plants, i.e. it is not readily relocated from old to young leaves and developing plant parts. It is therefore necessary to apply calcium regularly, and direct the spray at the plant parts affected by calcium deficiency.

In some crops, e.g. tomatoes, calcium deficiency may occur even where calcium has been applied to the soil, or the soil is naturally high in calcium, particularly if the crop is moisture-stressed. Foliar sprays of calcium are often recommended in these situations.

Foliar sprays are ineffective for hearting vegetables, e.g. lettuce, as the solution will not reach the young enclosed leaves; nor are they recommended in tuber crops, e.g. potatoes.

A typical foliar application rate for EASY Cal in tree and vegetable crops is 5 L/ha at a spray concentration of 500 – 800 mL/100L, and spray volume of around 1,000L/ha.

Foliar burn may occur at the concentrations shown in the table, particularly if other nutrients are applied at the same time, or water is of poor quality. If burn occurs or past experience indicates it is likely, reduce the concentration, e.g. to half the above rates, and be prepared to spray on a more regular basis.

EASY Cal is often applied more frequently at lower concentrations, e.g. 250 mL/100 L at 1 - 2 week intervals, during the fruit-filling period in tree crops.

If applying EASY Cal for the first time, or applying to a new crop, or should application procedures and equipment change, test spray on a few plants or trees first, and observe for three to four days for signs of phytotoxicity, before spraying the rest of the crop.

Some crops, e.g. strawberry, are more susceptible to fertiliser burn than others. Spray concentrations may need to be reduced in sensitive crops.

Add urea at 500 g/100 L in vegetables, 100 g/100 L in tree crops; plus a wetting agent at label recommended rates.

Apply in the early morning or late afternoon. Avoid spraying in the heat of the day, or under hot, dry windy conditions.

***For further information, Agritopics on “Fertigation” and “Foliar Fertilisers” are available if required, and should be read in conjunction with these “Use Directions”.***

## **COMPATIBILITY**

### **With other fertilisers**

EASY Cal is compatible with EASY N and EASY U Sol.

EASY Cal is incompatible with and should not be mixed with EASY NP, EASY NP + Zn, EASY PK, EASY NPK 27, Topfoliar, EASY NS, EASY ATS, EASY KS, Coppersol, Zincsol or Mangasol.

EASY Cal can be added to solutions containing urea, ammonium nitrate, potassium chloride, potassium nitrate, or metallic chelates.

Do not mix EASY Cal with phosphate, sulphate, boron or molybdenum fertilisers, as insoluble precipitate will form.

Fill the tank to near capacity, leaving space for the added fertiliser, which should then be added slowly while agitating. Do not pre-mix.

Fertiliser solutions should be prepared just prior to use and not allowed to stand for an extended period to minimise sediment formation and settling in tanks.

EASY Cal contains calcium nitrate which, being a calcium salt, will increase the hardness of the water to which it is being added.

### **With Crop Protectants**

If tank mixes of EASY Cal and crop protectants are being considered, check the label of the crop protection product and only mix the products if it specifically states that it is safe to do so.

Compatibility is dependent partly on the number of additives and the rates at which they are to be applied, water quality (if diluted), application equipment (degree of agitation) and other factors such as time and method of application. Compatibility checks should be carried out even if the chemical manufacturer has recommended the proposed mix. Checks need to cover -

- Physical compatibility
- Phytotoxicity to the crop at the target growth stage
- Efficacy of the crop protection product(s)
- Efficacy of surfactant and suspending agents (compatibility aides)

If compatibility information does not exist and a joint application is desired, prepare a small amount of the proposed mix and allow to stand in a glass jar over night and observe for signs of incompatibility.

A small quantity of the test mix should then be sprayed on a small area of the target crop and observed for 3 to 4 days for any phytotoxic effects.

### **STORAGE AND CARE OF EQUIPMENT**

Store in a cool place, away from direct sunlight.

EASY Cal is corrosive to many metals.

Appropriate materials for storing EASY Cal include High-Density Polyethylene (HDPE), stainless steel and fibreglass.

If an aluminium storage tank is used, all other fittings, piping and pump parts should be aluminium.

If a mild steel storage tank is used, the fittings and couplings will need to be compatible with mild steel to avoid galvanic corrosion.

Do not store EASY Cal in tanks of brass or copper alloys, concrete or galvanised steel.

Flush application and fertigation equipment after use with water only.

Where applied through fixed irrigation lines, discontinue use towards the end of the shift to flush fertiliser from the lines and off crop foliage. This minimises corrosion and the risk of leaf burn.

Refer to the Handling, Storage and Transport section of the EASY Liquids manual for further details, including appropriate materials for pumps, pipes, plumbing, valves and fittings.

### **SAFETY DIRECTIONS**

Avoid contact with eyes or skin. Wash hands after use. Avoid inhaling mist.

### **WARNING**

Before using fertiliser seek appropriate agronomic advice. Fertiliser may burn and/or damage crop roots or foliage. Foliar burn to the leaves, fruit or other plant parts is most likely to occur when different products are mixed and sprayed together, the water is of poor quality, or the spray is applied under hot dry conditions, eg. in the heat of the day. Because climatic and soil conditions, application methods, irrigation and agricultural practices are beyond the control of Incitec Pivot Limited and cannot be foreseen, Incitec Pivot Limited accepts no responsibility whatsoever for any commercial damage, loss or other result following the use of this product whether used in accordance with directions or not, subject to any overriding statutory provision and provided that such liability under those provisions shall be limited to the replacement of the goods as supplied or the rendering again of the services that are provided. The buyer accepts and uses this product subject to these conditions.

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**Incitec Pivot Limited**  
**PO Box 1322**  
**Melbourne**  
**Vic 3001**  
**Phone 03 8695 4400**  
**[www.incitecpivot.com.au](http://www.incitecpivot.com.au)**